**CHAPTER III**

**RESEARCH METHOLOGY**

1. **Research Method**

This study is an experimental research, since it describes the quantitative degree in which variable are related. Experimental research has a tight characteristic, it means that the design has to steady, and cannot change while the research is being to do.[[1]](#footnote-2)

“Experiments are important, they are by no means the only way in which research can or should be conducted”.[[2]](#footnote-3) Conducting research with experiment must be there, for knowing the final point of the research.

Type of Experiment:[[3]](#footnote-4)

1. Pre experiment: may have pre and post treatment tests, but lacks a control group.
2. Quasi experiment : has both pre and post tests and experimental and control group, but no random assignment of subject.
3. True experiment : has both pre and post-tests, experimental and control groups, and random assignment of subject.

In this research, the writer choose pre-experiment, according to David Nunan in his book “Research Method in Language Learning”, research experiment are carried out in order to explore the strength of relationship between variable. A variable as the term is self suggest, is anything, which does not remain constant.

The writer will conduct the research by applying experiment research with pre-test and post-test design, he take one class as experiment class, the class is given pre-test and then the treatment, the student practice using Montessori method, the last the students are given the post-test to measure the treatment is effective or not.

1. **Place and Time of Research**

The research will be conducted at “SDN Kaliwadas, Serang” located at Cimuncang kota Serang Banten, the research will be held from August to September 2015. The researcher will give a pre-test in the first meeting and the post-test in the end of meeting.

1. **The population and Sample**
2. Population

To complete this research, the writer needs the subject of this research that is called population. The subject where the research will carried out the research, and where the data is able to obtain.

In appropriate with the topic, the population of this research is students taken from third grade of SDN Kaliwadas Serang in academic 2014/2015. The calculations of the student third grade classes are 46 students for the population and they are were 27 boys and 19 girls.

1. Sample

The sample is intended to present the population research is generalization to the population. The writer uses the sample quota. It means the writer chooses the sample that has the characteristic in total or quota. The sample of the research is one class experimental with one group pre-test and post-test with formula:

O1 X O2

 O1 = Pre-test

 X = Treatment

 O2 = Post-test

The writer uses one class experimental with one group pre-test and post-test and take 40 student for sample.

1. **The Research Instrument**

Research instrument is facility that used by writer in collecting data. The writers conduct to steps of the research.

The first step introduction, pre-test and using usual method, continue by pos-test to know is there any increasing at student vocabulary mastery after using Montessori method, identified as an experiment class.

The experiment is done by following scheme:

Group A Treatment Group A

At beginning……….………………………………… At the end

Pre-test Experiment variable Post-test

 (Use Method)

The experiment used on the searched group before the material is given. The condition of the group should be known giving pre-test and measured to know the influence of material given by giving post-test in the last of experiment.

1. **The Technique of Data Collection**

Technique of data collecting of quantitative research, will be done by the writer is test result. There are several of data collecting techniques: observation and test.

1. Observation

Observation is the first step in doing research before the writer observes to the location where the research carried out. The purpose of this observation is asking permission of the headmaster to do research at his place, by observation the writer can know the situation of the population and sample directly is available or not.

Observation is very effective way of finding out what people do in particular contexts, the routines and international patterns of their everyday lives. The observation is the way and technique data collecting in which the writer does experiment systematically to the subject of the research.

1. Test

To obtain the data for this research the writer takes the data by using test as an instrument. To collect data, the writer uses the achievement test which consist of pre-test and post-test. It is used for measuring someone’s achievement after learning something.

The purpose of vocabulary test technique is determine the students vocabulary skill at the students of four elementary school sets for studies SDN Kaliwadas, Serang. The test will be presented the those student who learn English on vocabulary subject as sample of this investigation.

1. **The Technique of Data Analyzing**

After getting the data either from pre-test or post-test, the writer analyzes it by using statistic calculation of the t-test form formula with the degree of significance 5% and 1%. the formula is as follow:

[[4]](#footnote-5)

MD= Mean of differences, the average score from the differences gained scores between I variable and II variable, which are calculated with the formula:

∑ D = Total score between I variable (X variable) and II variable (Y variable) and D is gained with the formula :D = X- Y

N = Number of cases

SDD = Standard deviation from the differences between score of X variable and Y variable, which is gained with the formula:

SEMD = The standard error from mean differences which is gained with the formula :

Df =Degree of freedom with formula : N-1

1. Suharsimi Arikunto, *Prosedur Penelitian Suatu pendekatanPraktik****,***(Jakarta: Rhineka Cipta ed 6th , 2006), p. 89 [↑](#footnote-ref-2)
2. David Nunan, *Research Methods in Language Learning* (New York: Cambridge University Press, 1992), p.24 [↑](#footnote-ref-3)
3. ***Ibid,*** p.47 [↑](#footnote-ref-4)
4. Anas Sujidono, ***Pengantar statistic pendidikan,*** (Jakarta, PT. Raja Grafindo Persada, 1999, cet .9, p.295 [↑](#footnote-ref-5)